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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,819	03/25/2004	Hans Uwe Faust	3081	6600

7590 07/31/2006

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EXAMINER	
WU, IVES J	

ART UNIT	PAPER NUMBER
1724	

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/808,819	FAUST ET AL.	
	Examiner	Art Unit	
	Ives Wu	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/26/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

(1). Applicants' Amendments and Remarks filed on June 20, 2006 have been received and acknowledged.

Claim 1 is amended to incorporate the limitation of dependent claim 2.

Claim 2 is cancelled.

The rejection of claim 2 in the prior Office Action dated January 18, 2006 is removed accordingly.

The rejection of claim 1 in the prior Office Action dated January 18, 2006 is modified and presented together the rejections of claims 3-15 in the succeeding paragraphs.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(2). **Claims 1, 3-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jakob et al (US005545684A) in view of Bennett et al (US2002007910A1).

(3). Jakob et al disclose an aqueous emulsion adhesive comprising homo- or copolymeic polyvinyl esters, polymeric protective colloids, water soluble compounds which can be complexed with polymeric protective colloids (Abstract, line 1-4). Suitable monomers for these

homo- or copolymeric polyvinyl esters include vinyl acetate and vinyl acetate is particularly preferred (Col. 3, line 34-36,43-44). The proportion of these vinyl esters in the polymer is generally at least 50 wt% (Col. 3, line 45-47).

Any other monomers can be copolymerized with vinyl ester units, for example, other ethylenically unsaturated monomers include acrylic acid, methacrylic acid and esters thereof with primary, secondary, saturated, monohydric alcohols having 1 to 18 carbon atoms, for example methanol, ethanol, cycloaliphatic alcohols (Col. 3, line 49-56). The proportion of these comonomers relative to the total amount of monomers is up to 25 wt% (Col. 3, line 61-62).

Other suitable comonomers for forming the polyvinyl esters include ethylenically unsaturated hydrocarbons such as vinyl toluene, styrene (Col. 3, line 64 – Col. 4, line 1). The proportion of these comonomers relative to the total amount of monomers is up to 50 wt% (Col. 4, line 3-5).

Particularly suitable comonomers are those containing N-functional groups such as N-methylol(meth)acrylamide (Col. 4, line 16-19). The proportion of these comonomers relative to the total amount of monomers is up to 15 wt% (Col. 4, line 30-31).

In addition to the homo-or copolymeric polyvinyl esters, the novel adhesive emulsions contain the protective colloids. An example of suitable compound is polyvinyl alcohol, in particular polyvinyl alcohol having a degree of hydrolysis of 60 – 100 mol% with preferred viscosity of from 2 to 70 mPa.s for 4% strength by weight aqueous solution at 20 °C (Col. 4, line 54-61).

The polyvinyl ester emulsion is prepared by the conventional continuous or batch procedure of free-radical emulsion polymerization, using water-soluble initiator systems (Col. 7, line 13-16). The polymeric protective colloids and emulsifiers can be added before, during or after the polymerization (Col. 7, line 23-24). The system is then preferably activated in a two-component system by addition of suitable amounts of an acidic complexible compound, in particular, phosphoric acid (Col. 8, line 6-10). The novel adhesive preparations are particularly suitable as boiling water resistant adhesives, in particular for cellulosic substrates, such as wood (Col. 8, line 63-65).

(4). As to the water-based bicomponent adhesive prepared in the presence of a protective colloid system which comprises high molecular weight partially hydrolyzed polyvinyl alcohol

and intermediate hydrolyzed polyvinyl alcohol in the **independent claim 1**, it is recognized that claim 1 is a product-by-process claim even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. *In re Thorpe,* 227 USPQ 964 (CAFC 1985). Since Jakob's et al adhesive composition is substantially identical to that of the applicant's, in view of lacking to show criticality by the applicant for the process of making, applicant's process is not given patentable weight in this claim.

As to an aromatic monomer comprising 2-phenoxy ethyl acrylate in **independent claim 1**, Jakob et al **do not teach** the use of 2-phenoxy ethyl acrylate as aromatic monomer.

However, Bennett et al **teach** the thermosettable pressure sensitive adhesive including the ethylenically unsaturated monomers such as 2-phenoxy ethyl acrylate ([0171]).

The advantage of using the 2-phenoxy ethyl acrylate monomer in the adhesive composition is due to the pressure sensitivity in adhesion ([0019]).

Therefore, it would have been obvious at time the invention was made to use the aromatic monomer such as 2-phenoxy ethyl acrylate taught by Bennett et al in the adhesive composition of Jakob et al in order to obtain the aforementioned advantage.

(5). The same rationale of rejections for claims 3-15 has been recited in the prior Office Action dated January 18, 2006.

(6). Also, **Claims 1, 3-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jakob et al (US005545684A) in view of Smith et al (US20040122151A1).

Even if assuming that the process for making the polymer taught by Jakob is different from that recited in instant claim 1 in that Jakob et al **do not teach** the partially hydrolyzed polyvinyl alcohol is blend of high molecular weight and intermediate molecular weight polyvinyl alcohol, Jakob et al do **teach** the protective colloids to be polyvinyl alcohol with degree of hydrolysis of 60-100 mol% and preferred viscosity of from 2 to 70mPa.s (Col. 4, line 54-61).

Furthermore, Smith et al **teach** the "partially" hydrolysis of polyvinyl alcohol in the industry are believed to provide improved receptivity to certain inks with less water sensitivity

([0033]). For coating compositions, the polyvinyl alcohol preferably has a relative low weight average molecular weight between 13,000 and about 50,000 ([0034], line 1-3). For wet end additive compositions, the polyvinyl alcohol preferably has a higher weight average molecular weight between about 85,000 and about 186,000 ([0035], line 1-3).

The advantages of using relative low weight average molecular weight polyvinyl alcohol is less viscous. It has been found that this relatively low molecular weight is associated with high coating solids, which makes it easier to dry the coatings on the desired substrate. This saves time and labor and is a processing aid ([0034], line 4-9).

The advantage of using high weight average molecular weight is to have a greater strength than low molecular weight material for the application such as wet end ([0035, line 4-7).

Therefore, it would have been obvious at time the invention was made to use the blend of partially hydrolyzed high weight average molecular weight and relative low weight average molecular weight polyvinyl alcohol taught by Smith et al for the protective colloids of polyvinyl alcohol in the adhesive composition of Jakob et al in order to obtain the aforementioned combined advantages. Alternatively, the partially hydrolyzed polyvinyl alcohol taught by Jakob et al is genus, the low weight average molecular weight polyvinyl alcohol and high weight average molecular weight polyvinyl alcohol are species. One ordinary skill in the art would expect all species work well for genus, motivated by a reasonable expectation of success. *In re O'Farrell,* 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). Moreover, each relative low weight average molecular weight and high weight average molecular weight partially hydrolyzed polyvinyl alcohol is known as a protective colloid and the person of ordinary skill in the art would have expected such a combination to work in an additive or cumulative manner. *In re Kerkhoven,* 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). See §§ MPEP 2144.06.

As to an aromatic monomer comprising 2-phenoxy ethyl acrylate in **independent claim 1**, Jakob et al, Smith et al **do not teach** the use of 2-phenoxy ethyl acrylate as aromatic monomer.

However, Bennett et al **teach** the thermosettable pressure sensitive adhesive including the ethylenically unsaturated monomers such as 2-phenoxy ethyl acrylate ([0171]).

The advantage of using the 2-phenoxy ethyl acrylate monomer in the adhesive composition is due to the pressure sensitivity in adhesion ([0019]).

Therefore, it would have been obvious at time the invention was made to use the aromatic monomer such as 2-phenoxy ethyl acrylate taught by Bennett et al in the adhesive composition of Jakob et al in order to obtain the aforementioned advantage.

As to the rejections over claims 3-15, see paragraph (3) and (5).

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Ives Wu
Art Unit: 1724
Date: July 25, 2006

DUANE SMITH
PRIMARY EXAMINER
7-25-06